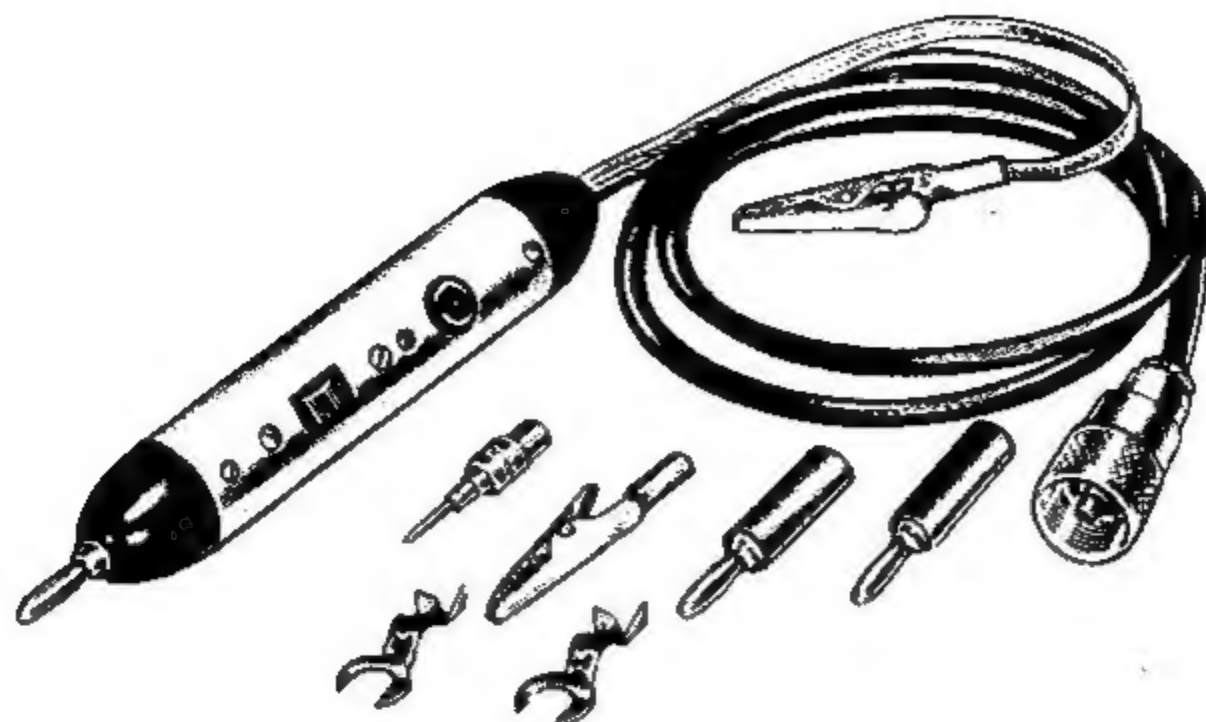


ASSEMBLY AND OPERATION OF THE HEATHKIT UNIVERSAL SCOPE PROBE MODEL PK-1

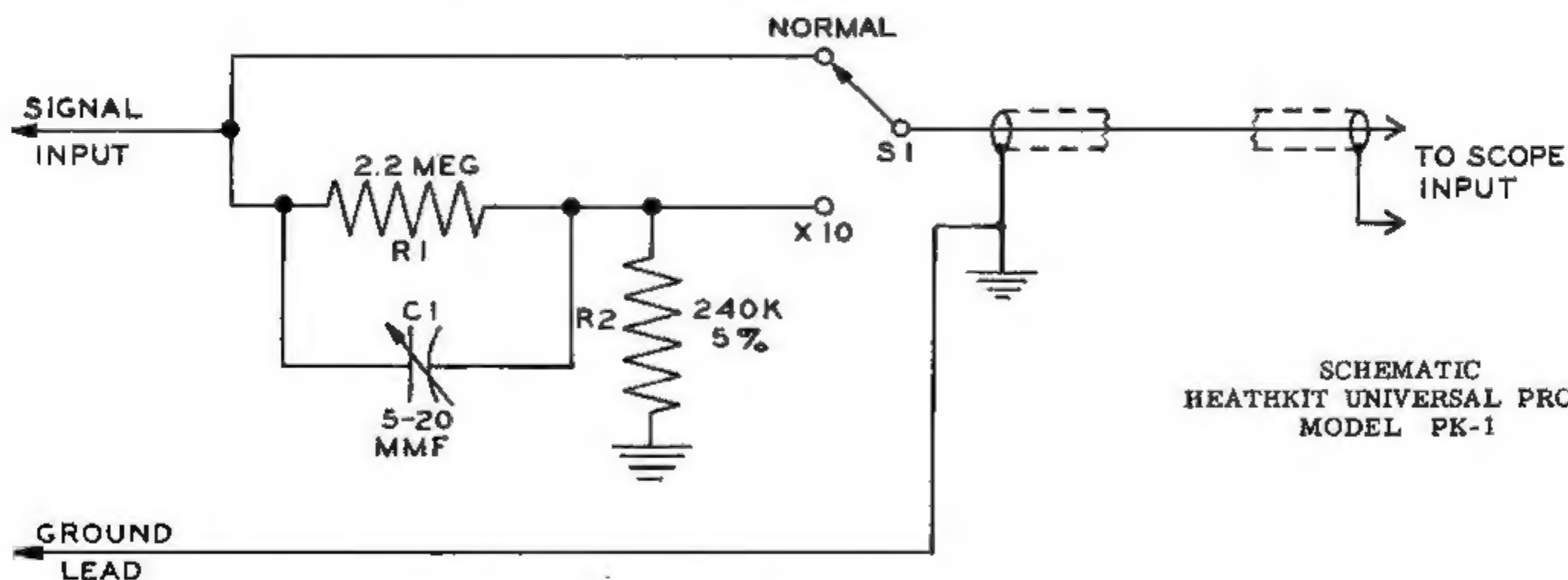


SPECIFICATIONS

Direct Position: Input impedance: 2.4 megohms shunted by 100 $\mu\mu\text{f}$.
 X10 Position: Input impedance: 2.4 megohms shunted by 20 $\mu\mu\text{f}$.
 Maximum DC Voltage: 600 volts.

INTRODUCTION

The Model PK-1 Universal Scope Probe permits observation of signals which otherwise would be affected by the relatively high input capacity of the Scope and its shielded input lead. The signal attenuation in the X10 position is accurate to within 5% (when used with an oscilloscope with a 3.6 megohm input impedance). Several types of connectors are supplied for the end of the shielded cable to make the Probe universally adaptable to a wide variety of oscilloscopes.



SCHEMATIC
HEATHKIT UNIVERSAL PROBE
MODEL PK-1

CIRCUIT DESCRIPTION

When a signal is applied to the input of the Probe, and switch S-1 is in the "normal" position, the signal passes directly into the oscilloscope. If switch S-1 is in the X10 position, the signal available at the junction of R₁ and R₂ is fed into the oscilloscope. The values of R₁ and R₂ are so chosen that 9/10 of the signal is across R₁ and 1/10 across R₂ (the scope input). C₁ (in parallel with R₁) is actually one leg of a capacitive voltage divider, with the capacity of the shielded lead and the scope input capacity forming the other leg. When C₁ is properly adjusted, 9/10 of the signal will be across C₁ and 1/10 across the capacity of the shielded cable (the scope input).